
Space Weather Forecast

Issued on Saturday, 18 June 2022 at 01:16 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales <https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales>

Space Weather Forecast Headline: Daily chance of isolated Moderate-class flares.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been Low with a few C-class flares, mostly originating from two regions, one in the northwest and the other in the southwest. There are currently 8 numbered sunspot regions plus two new regions on the visible disc. The largest and most complex has been the region in the southwest, although it has been showing some decay in its intermediate spots. Two regions are showing signs of growth, the one mentioned above in the northwest and a further region in the northeast quadrant. All other spot groups are relatively simple, with some showing some minor decay.

No Earth-directed Coronal Mass Ejections (CMEs) were observed in available imagery.

Solar Wind / Geomagnetic Activity: The solar wind is indicative of a coronal hole fast wind, although the source is a little uncertain. Wind speeds mostly fluctuated between 550-650km/s. The Interplanetary Magnetic Field was weak, while the north-south component fluctuated weakly. Geomagnetic activity was Quiet to Unsettled (Kp 2 to 3).

Energetic Particles / Solar Radiation: No solar radiation storms were observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be mostly Low with a chance of isolated Moderate-class flares, and just a very slight chance of a Strong flare.

Solar Wind / Geomagnetic Activity: No CMEs are currently expected to affect Earth during the period.

Solar wind speeds are expected to remain largely elevated or perhaps strong over the next two to three days, due to coronal hole influences. Wind speeds should start to decline on Day 3 into Day 4 (20-21 June) as the coronal holes rotate away. Geomagnetic activity is expected to be mostly Quiet to Unsettled, but with a chance of an Active or even a very slight chance of a G1/Minor Storm interval on Days 1 and 2 (18-19 June). Geomagnetic activity becoming largely Quiet through Day 3 into Day 4.

Energetic Particles / Solar Radiation: There is a very slight chance of an S1 or greater solar radiation storm event occurring, a consequence of the westward transit of the two more complex spot groups in the northwest and southwest quadrants.

Geomagnetic Storms:

Geo-Magnetic Storm	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability (Exceedance)			(%)	(%)	(%)	(%)
Minor or Moderate	G1 to G2	No	5	5	1	1
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability			(%)	(%)	(%)	(%)
Active	R1-R2 M Class	No	30	30	30	30
Very Active	R3 to R5 X	No	5	5	5	5

Solar Radiation Storms - (High Energy Protons):

Radiation Storms	Level (cm ⁻² sr ⁻¹ s ⁻¹)	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability (Exceedance)			(%)	(%)	(%)	(%)
Active	≥ S1	No	5	5	5	5
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = cm⁻²sr⁻¹s⁻¹)